Listing of Claims:

1. (currently amended) An echo canceler for reducing echoes resulting from a far-end signal and adaptable during a double-talk event, the echo canceler comprising:

an adaptable filter to filter the received far-end signal and provide an echo estimate; and

an adaptation module in communication with the adaptable filter to update the adaptable filter <u>during a double-talk event</u>, the adaptation module to receive a microphone signal and separate a near-end signal from the microphone signal using a blind source separation algorithm.

- 2. (original) The echo canceler of claim 1, wherein the adaptable filter includes a finite infinite response filter.
- 3. (original) The echo canceler of claim 1, wherein the echo canceler further includes a preprocessing module in communication with the adaptable filter and adaptation module, the preprocessing module to whiten the far-end signal and decorrelate the microphone signal.
- 4. (original) The echo canceler of claim 3, wherein the preprocessing module includes.
 - a first decorrelator to receive and whiten the far end signal, and a second decorrelator to receive and decorrelate the microphone signal.
- 5 (original) The echo canceler of claim 3, wherein the preprocessing module includes a recursive least-squares structure.
- 6. (original) The echo canceler of claim 5, wherein the preprocessing module includes a recursive least-squares systolic array.

- 7. (original) The echo canceler of claim 5, wherein the preprocessing module includes a recursive least-squares lattice-ladder.
- 8. (original) The echo canceler of claim 3, wherein the preprocessing module maximizes a criterion of measure to increase the statistical independence of the near-end signal.
- 9. (original) The echo canceler of claim 8, wherein the criterion of measure is negentropy.
- 10. (original) The echo canceler of claim 1, wherein the blind source separation algorithm is a gradient negentropy algorithm.
- 11. (currently amended) A method for reducing echoes resulting from a far-end signal, the method comprising:

receiving a microphone signal including a near-end signal and echoes;

applying a blind source separation algorithm to the microphone signal to separate the near-end signal;

updating an adaptable filter based on the echoes <u>during a double-talk event</u>; the adaptable filter, filtering the far-end signal to provide an echo estimate; and applying the echo estimate to a microphone signal to substantially remove echoes.

- 12. (original) The method of claim 11, wherein the adaptable filter comprises a finite impulse response filter.
 - 13. (original) The method of claim 11, further comprising: whitening the far-signal; and decorrelating the near-end signal from the microphone signal.

- 14. (original) The method of claim 13, wherein whitening the far-end signal is performed by a first decorrelator and decorrelating the near-end signal is performed by a second decorrelator.
- 15. (original) The method of claim 13, wherein whitening the far-end signal and decorrelating the near-end signal is performed by a recursive least-squares structure.
- 16. (original) The method of claim 15, wherein the recursive least-squares structure is a recursive least-squares systolic array.
- 17. (original) The method of claim 15, wherein the recursive least-squares structure is a recursive least-squares lattice-ladder.
- 18. (currently amended) An echo canceler for receiving a microphone signal including a near-end signal and echoes resulting from a far-end signal, the echo canceler reducing the echoes and adaptable during a double-talk event, the echo canceler comprising:
- a preprocessing module to whiten the far-end signal and reduce signal correlation in the microphone signal; and
- a blind source separation module, in communication with the preprocessing module and including,

an adaptable filter to filter the whitened far-end signal and provide an echo estimate, and

an adaptation module to update the adaptable filter during a double-talk event and to receive the decorrelated microphone signal and separate the near-end signal from the microphone signal using a blind source separation algorithm.

19. (original) The echo canceler of claim 18, wherein the adaptable filter includes a finite impulse response filter.

- 20. (original) The echo canceler of claim 18, wherein the preprocessing module includes,
 - a first decorrelator to receive and whiten the far end signal, and
 - a second decorrelator to receive and decorrelate the microphone signal.
- 21. (original) The echo canceler of claim 18, wherein the preprocessing module includes a recursive least-squares structure.
- 22. (original) The echo canceler of claim 21, wherein the preprocessing module includes a recursive least-squares systolic array.
- 23. (original) The echo canceler of claim 21, wherein the preprocessing module includes a recursive least-squares lattice-ladder.